ABSTRACT

The present invention is for the improvement of inter-layer bonding strength in polypropylene films through the addition of ethylene as a mini-random copolymer in an amount of no more than about 1 weight percent, more preferably no more than about 0.7 weight percent, and most preferably between about 0.3 weight percent to about 0.5 weight percent or even amounts less than about 0.2 weight percent. The invention allows the improvement of inter-layer bond strength in multi-layer films resulting specifically in improved heat seal strength. The invention encompasses both the resulting films with enhanced heat seal strength and the process for producing such films. In the preferred embodiment, the proposed mini-random copolymer is formed into a film layer used in place of a propylene homopolymer layer, providing improved bonding properties over a film formed of polypropylene homopolymer, while maintaining at acceptable levels the physical and optical characteristics of a film layer made from a propylene homopolymer, such as stiffness.